Herndon Parkway & Sterling Road Intersection Study

Presented to
Town of Herndon

March 11, 2014

Presented by
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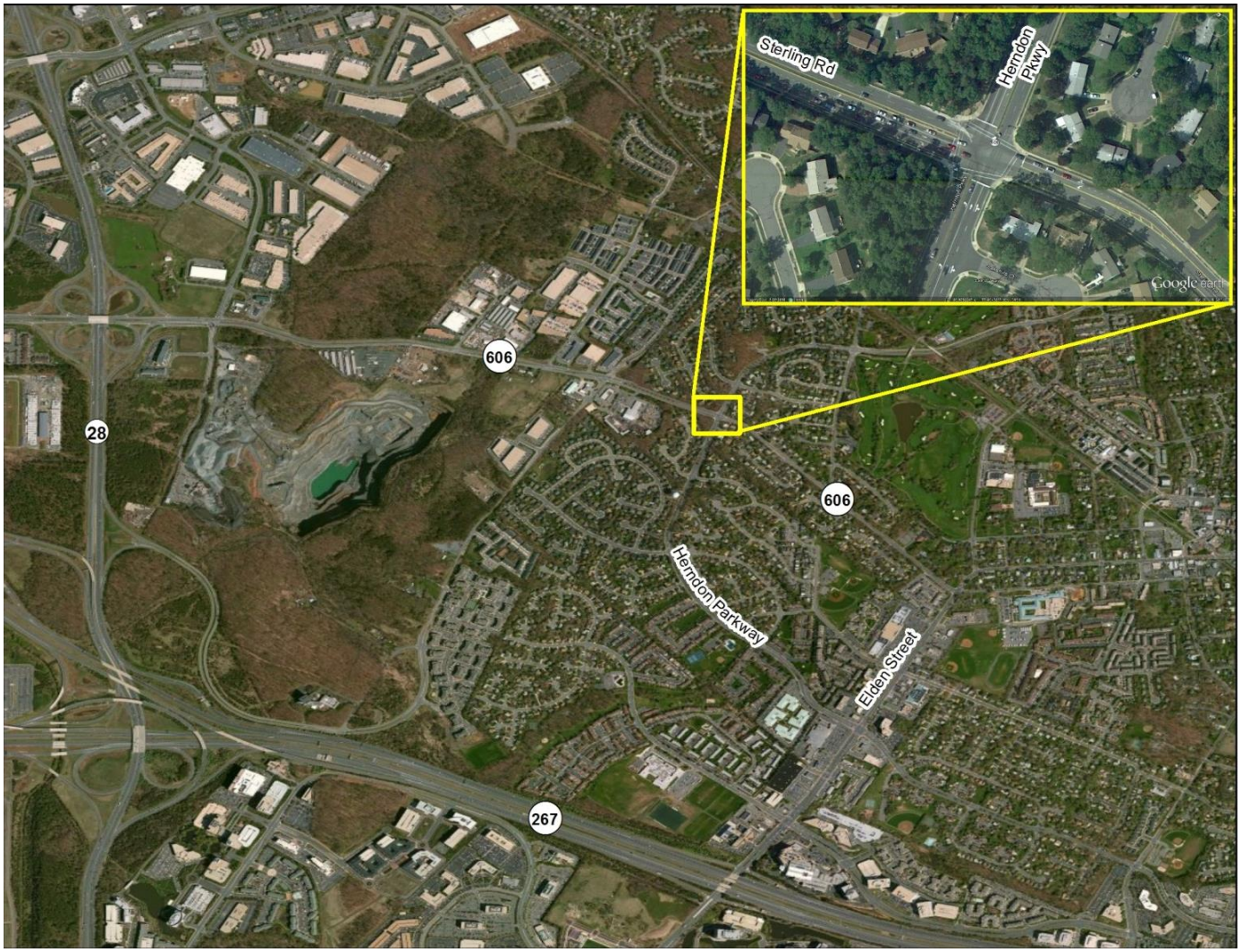
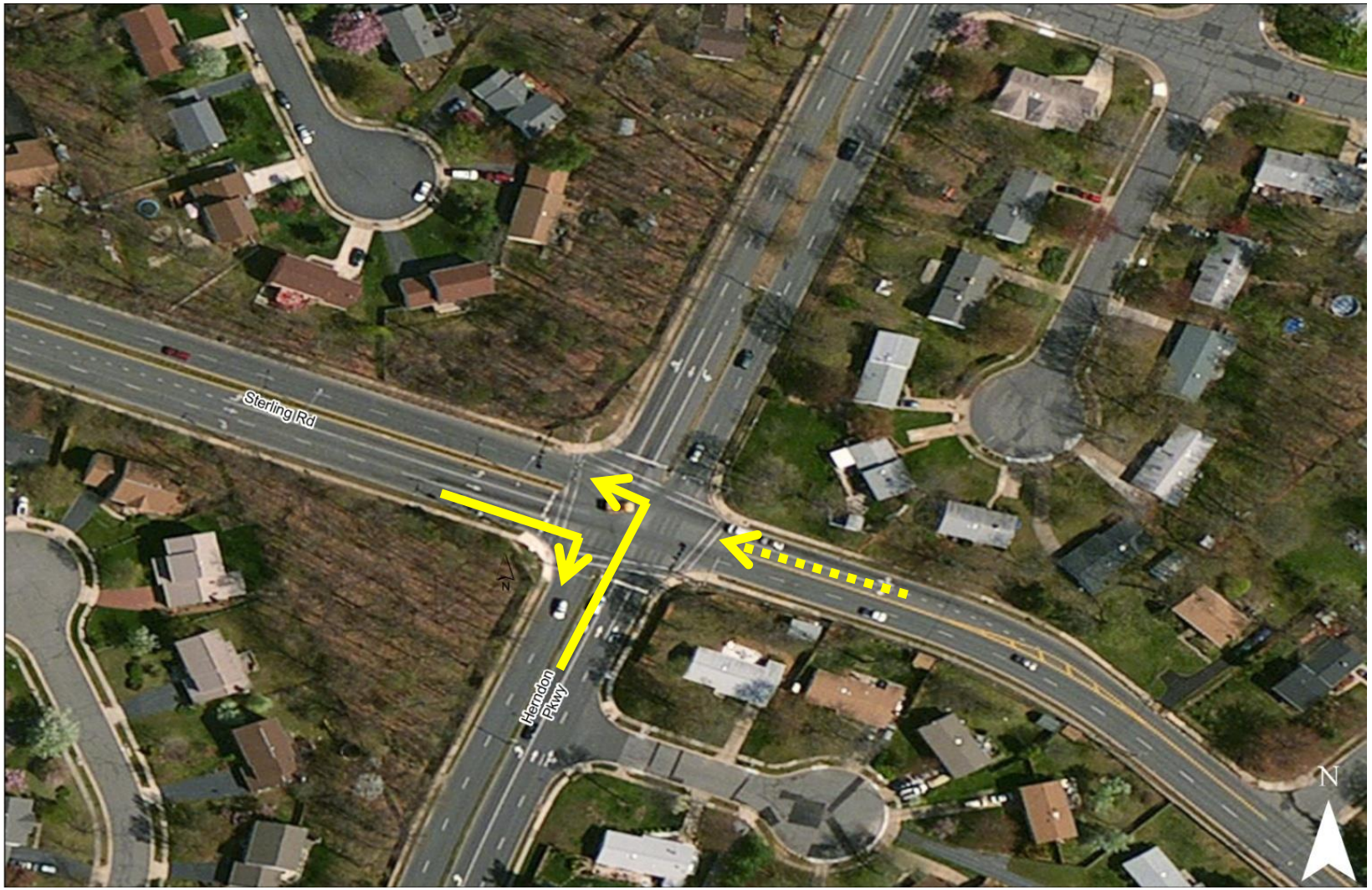
Study Area


Sterling Rd
Herndon Pkwy
606
28
606
Herndon Parkway
Elden Street
267

Herndon Parkway & Sterling Road



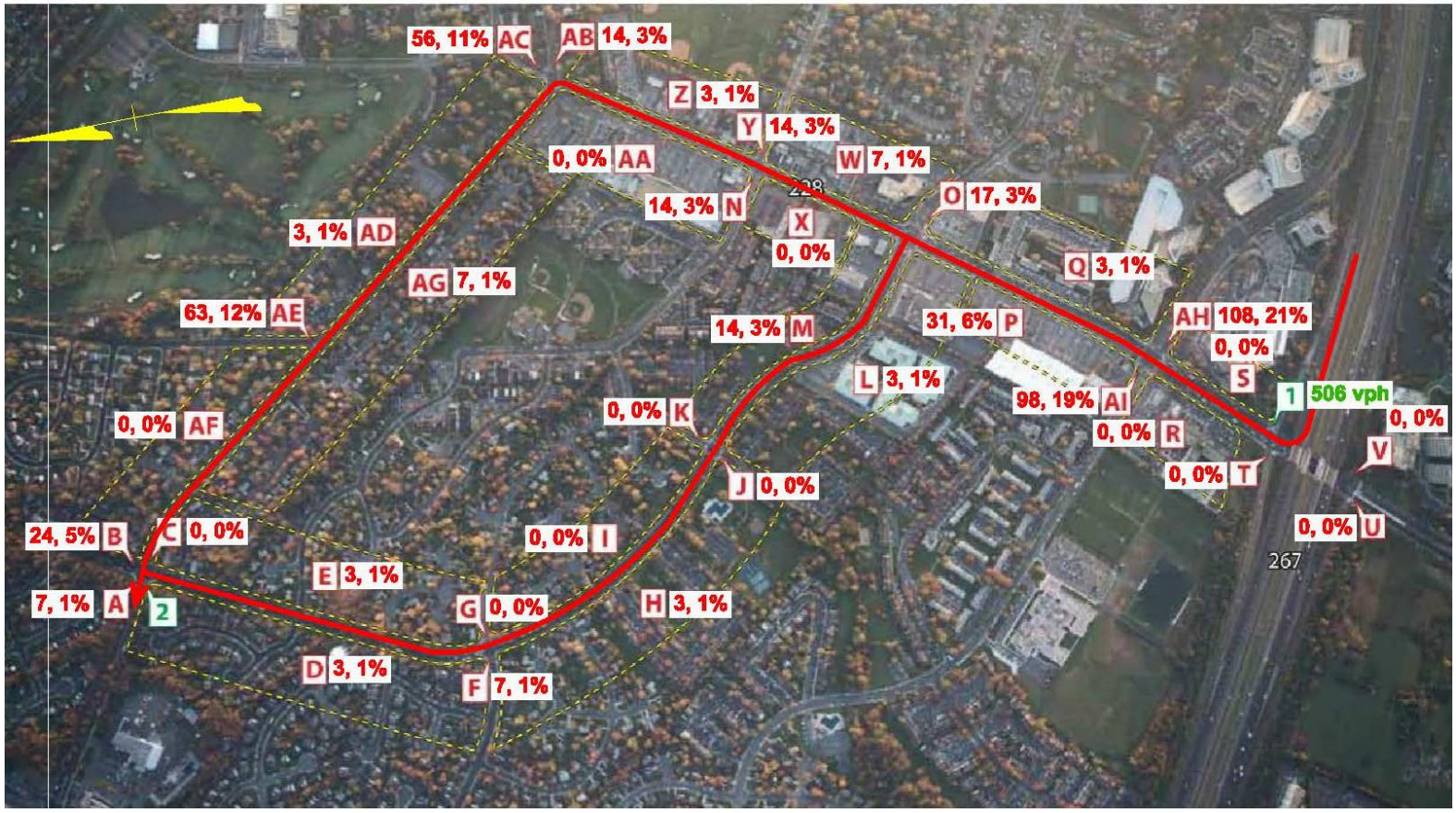
Objective

- Study to Determine Feasibility of:
  - Traffic Operations Improvements
    - Signal Timings
    - Turn Restrictions
  - Roadway Capacity Improvements
    - Restriping
    - Lane Conversions
    - New Lanes

Approach

- Major Study Components:
  - ✓Origin/Destination Survey
  - ✓Development of Alternatives
  - ✓Alternatives Analysis
  - ✓Cost and Constraints Evaluation
  - ✓Refinement of Alternatives
  - ✓Revised Analysis
  - ➢Selection of Preferred Alternatives
  - ○Design
  - ○Construction

Origin/Destination Survey – Is There Cut-Thru?



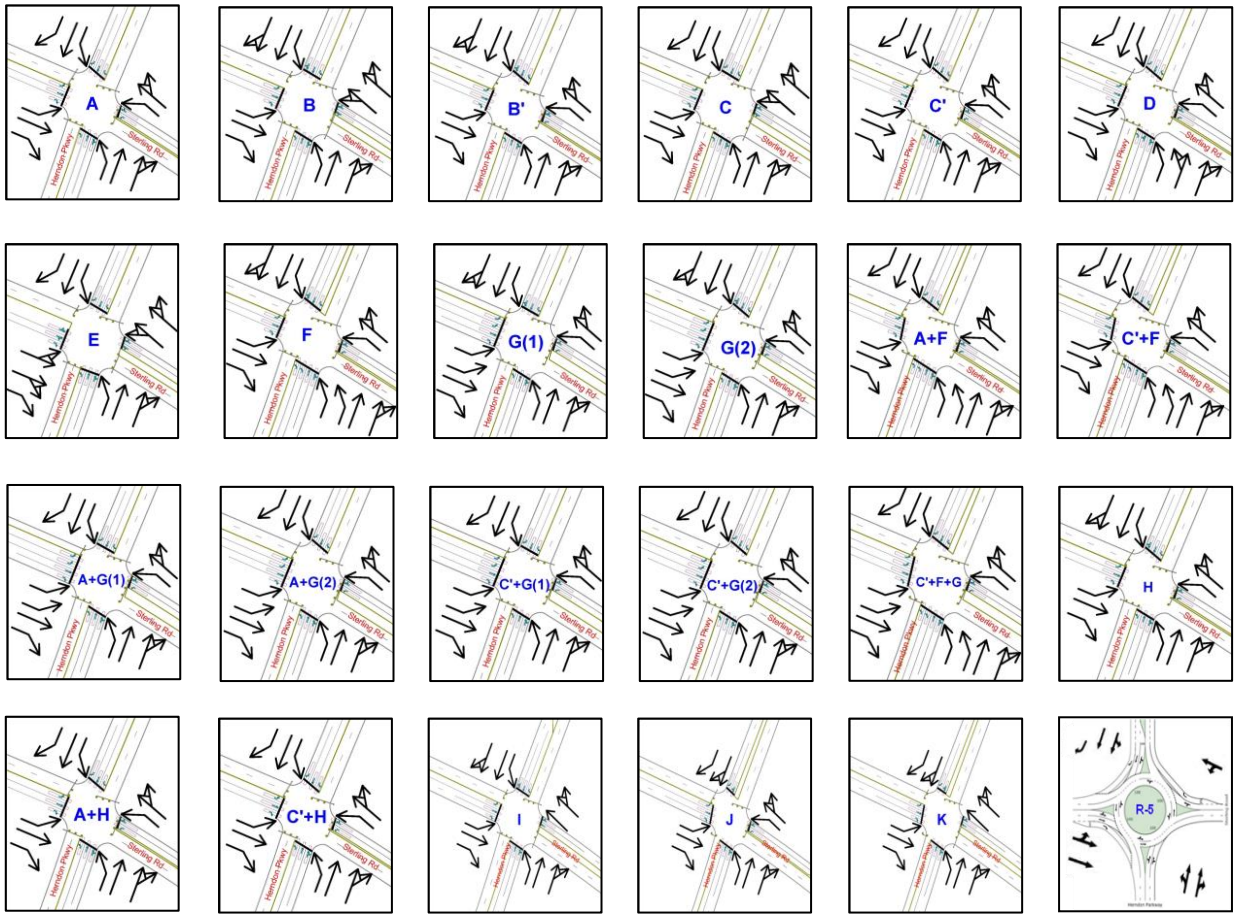
O/D Analysis – Results

- WB 267 (Dulles Toll Road) to 606 (Sterling Road)
  - PM Peak Hour
    - 506 vehicles at Dulles Toll Road exit
    - 7 of those to Sterling Road west of study area (1%)
  - Other peak hours/directions similar
- No evidence of significant cut-thru traffic

Development of Alternatives

Cost Category	Types of Improvements	Alternatives
Low-Cost (< $30,000)	• Existing signal phasing/timing changes • Turn prohibitions	B', H, I, J, K
Moderate-Cost (< $250,000)	• Modify existing signage/ pavement markings •Signal equipment modifications	A, B, C, C', D, E, A+H, C'+H
High-Cost ($250,000+)	• Road widening • Moving/adding new equipment • Intersection redesign	F, G1, G2, A+F, C'+F, A+G1, A+G2, C'+G1, C'+G2, C'+F+G2, R5

Initial Alternatives



Refinement of Alternatives

- Operational Analysis
  - Retained options with most improvement in each cost category

- Constraints
  - Available right-of-way
  - Off-site impacts (u-turns, traffic diversion)
  - Alignment issues
  - Relocation/reconstruction of existing infrastructure

- Additional Alternatives
  - Balance operational benefits and constraints

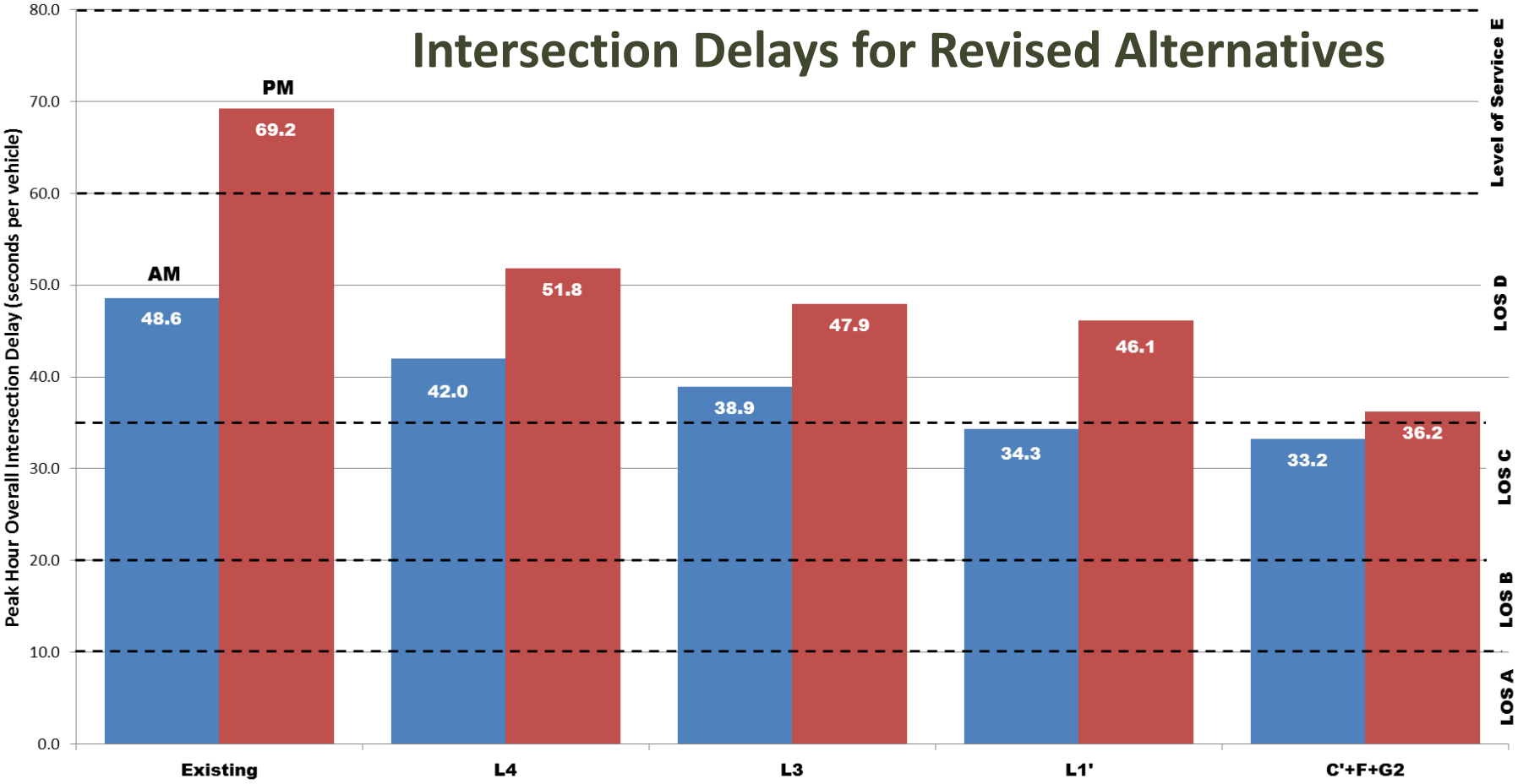
Alternative L4

Alternative L3

Alternative L1’

Alternative C'+F+G2

Intersection Delays for Revised Alternatives



Preferred Alternative Summary

- Near-term, Moderate-cost:
  - L4 (south leg only) – smallest scope, least benefit

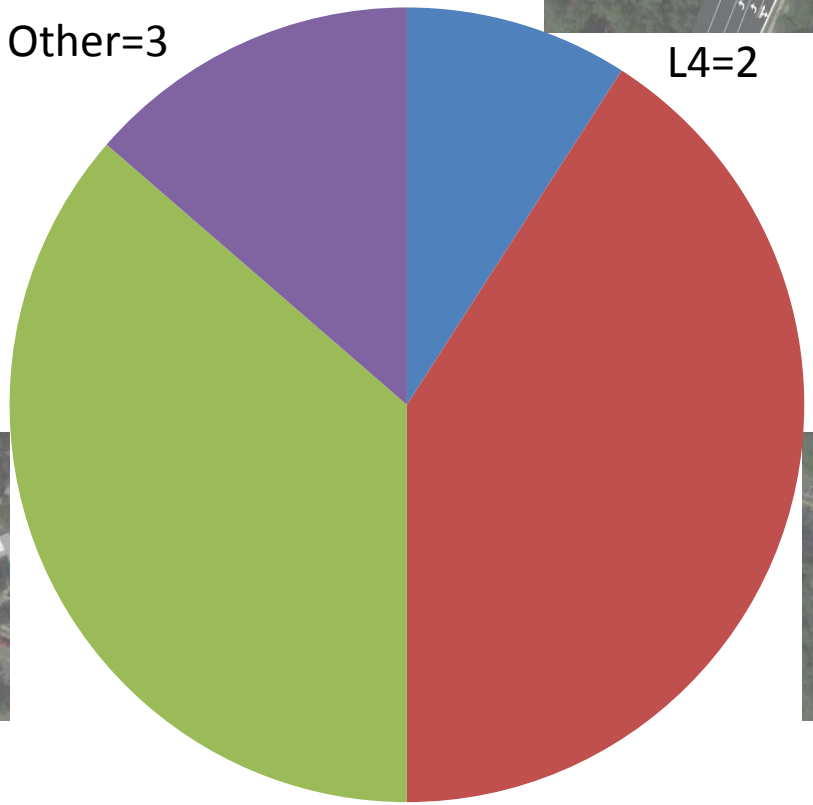
  - L3 (north & south legs) – intermediate scope and benefit

  - L1’ (north, south, west legs) – largest scope, most benefit

- Long-term, High-cost:
  - C’+F+G2 (north, south, west legs and widening) – requires additional funding, longer delivery time, nearby developments still in planning stage

Preferred Alternative of Commenters

L4=2

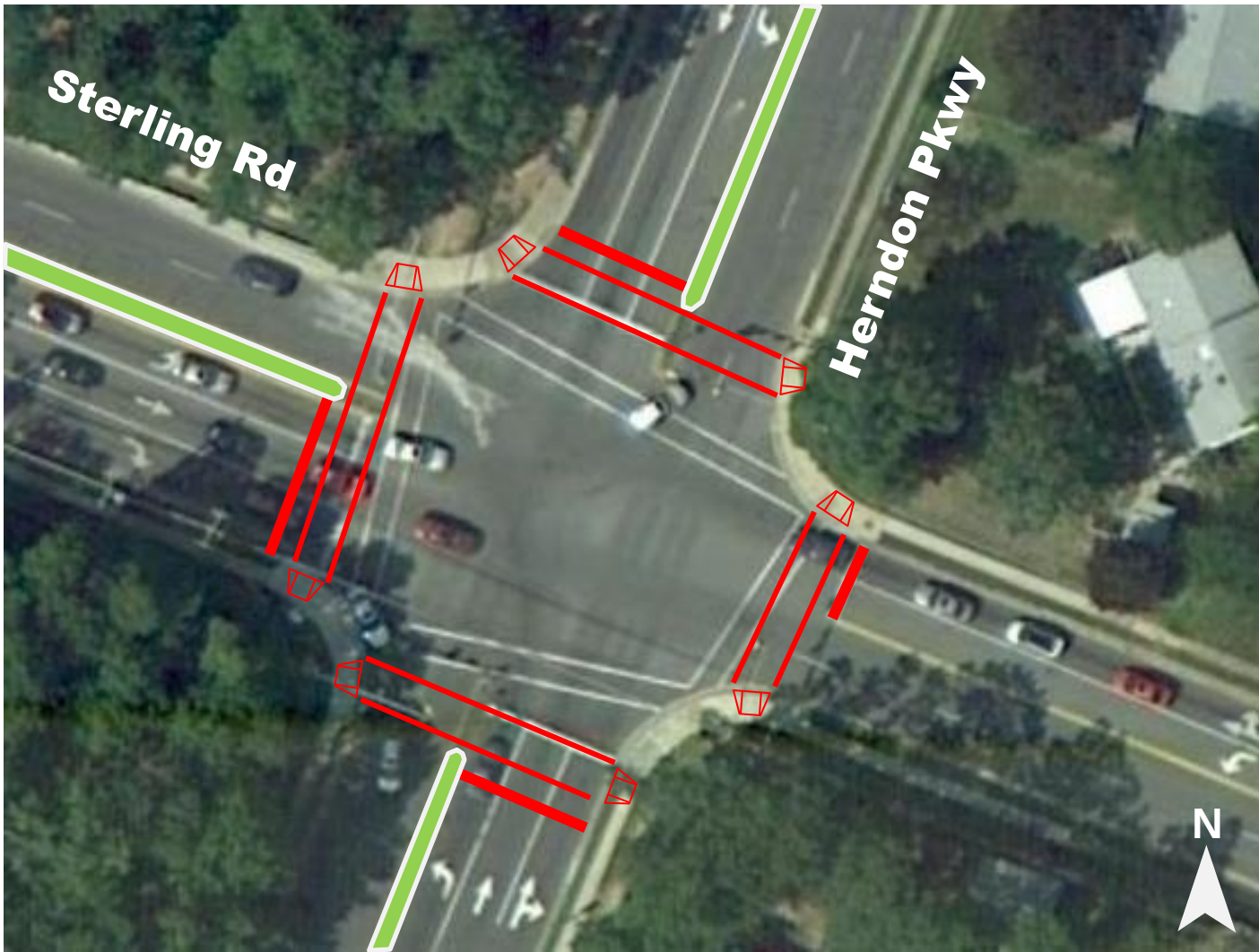


L1’=8

L3=9

L3 Pedestrian Enhancements

- Shortened Crosswalks by:
  - 30’-North
  - 8’-East
  - 17’-South
  - 11’-West
- New Curb Ramps



QUESTIONS?